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leaf, is preferable from its greater cheapness.

Artificial Cold.

Phil. Mag. xxxvi. 76.

Professor Leslie of Edinburgh, in continuing a series of experiments on the relations of air and moisture, has lately been led to a very singular and important discovery. *Without any expenditure of materials*, he can by means of a simple apparatus, in which the action of certain chemical agents is combined, freeze a mass of water, and keep it for an indefinite length of time in a state of ice. In the space of an hour he has, on a small scale, formed a cake of ice six inches in diameter, and three quarters of an inch thick. With very little trouble he can produce a permanent cold of 90 degrees of Fahrenheit below the temperature of the air, and might easily push it to 100 or 110. The professor is now engaged in prosecuting these fruitful researches, and will soon, it is hoped, favour the public with an account of this process, and of its chief results.

Observations. This discovery of professor Leslie, is of the greatest importance, if the facts stated of it are correct; which from the connections the editor of the *Phil. Mag.* is known to have with Edinburgh is extremely probable. For a method of freezing water *without any expenditure of materials* by a simple apparatus, must afford a never failing and inexhaustible supply of fresh water at sea, and thereby save much stowage in ships, contribute extremely to the health and comfort of seamen on long voyages, and render the operation of blockading enemies' ports, on which much of our security depends, more certain and effectual.

This invention will also be of great use in the salt works, affording a cheap method of bringing brine to the point of crystallization; the manufacture of nitre will also experience a similar benefit; as will all chemical processes of the same nature. And by its use the concentration of spirits, and of vinegar, may be performed more readily, and every species of distillation may be much accelerated.

The many benefits to be derived from a discovery so perfect, as this is announced to be, will, it is hoped, excuse this notice of it, preceding its description, contrary to the usual order of this department of the magazine; but it must be owned they naturally occasion some doubts whether the Edinburgh correspondent, or the editor of the *Phil. Mag.* may not have been mistaken in his assertion of this great degree of cold being produced *without any expenditure of materials*.

Observations on the Effects of Magnesia, in preventing an increased secretion of Uric acid, by Mr W. F. Brande. *Phil. Mag.* xxxvi. 8.

Mr. Brande has in this paper given farther particulars of the success of this medicine in calculous diseases, of which some account was given in a former number.

Four cases are related in which magnesia had the most beneficial effects; after the alkalies having been tried in vain. In the first case fifteen grains of magnesia were given three times a day; in the second case twenty grains night and morning; in the third case twenty grains every night the first period of taking it, and twenty grains night and morning at the second period. The fourth case being very remarkable from the magnesia having given great relief in the gout, as well as in the disease it was intended to remove, is selected for insertion at large.

CASE 4.

A gentleman aged fifty six, after recovering from a severe fit of the gout, voided constantly a large quantity of mucus in his urine, a symptom which he had never before noticed. There was also occasionally, abundance of red sand, consisting principally of uric acid, but he never had voided a calculus. His stomach was uncommonly weak; he was often affected with the heartburn, and an almost constant pain in the neighbourhood of the right kidney. He had been in the habit of taking tincture of bark, and other spirituous medicines, from a belief that the pain in his right side arose from the gout in his stomach.

He had already attempted to use